

STATE OF NEW JERSEY
DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF RESPONSIBLE PARTY SITE REMEDIATION
BUREAU OF FIELD OPERATIONS
401 EAST STATE STREET
CN 435
TRENTON, NEW JERSEY 08625-0435

**PERMIT APPLICATION TO INSTALL OR SUBSTANTIALLY MODIFY
UNDERGROUND STORAGE TANK SYSTEMS**

INSTRUCTIONS

See separate instructions

Please type or print in ink.

Illegible or incomplete applications will be returned.

Permit fee must accompany all applications.

For assistance, call (609)633-0708.

Submit application and fee to the above address

N.J.A.C. 7:14B-10.1 specifies types of Underground Storage Tank Systems that can be installed without first obtaining a permit from the Department.

1. Location of Facility

Facility's Name _____

Address (Street/Road) _____

Municipality _____ County _____

Underground Storage Tank Registration No. _ _ _ _ _

Telephone No. (____) _____

2. Owner's Mailing Address

Owner's Name _____

Permanent Legal Address _____

City or Town _____ State _____

Telephone No. (____) _____

3. Have any closure applications been submitted that are directly related to the proposed work ?

Yes ____ No ____ If Yes, please enter date of closure application submitted or TMS number of application.

Date of Submittal or TMS number _____

4. Brief Description of Proposed Project and Intended Use:

5. Permit Activity at Facility (check the appropriate activity)

NOTICE: UST Systems whose tanks and piping are secondarily contained with interstitial monitoring, corrosion protection, and spill and overfill protection do not need a permit in accordance with N.J.A.C. 7:14B-4.4 and 6.3 (a)2.

_____ Installation of a new UST system (including "replacement" of an entire UST system).

- (a) Complete and Submit Attachment A
- (b) Submit a Registration Questionnaire to the Billing and Registration Section within 30 days prior to use of the USTS system.
- (c) Number of tanks at facility to be installed _____

_____ Substantial modification of existing UST system(s) (including replacement of piping).

- (a) Complete and submit Attachment B.
- (b) Submit a Registration Questionnaire to the Billing and Registration Section within 7 days of completion of the substantial modification.
- (c) Number of tanks at facility involved in modification _____

6. Fee Schedule.

Fee is \$300 per application. Make the check payable to Treasurer, State of New Jersey.

Note: Any UST permit issued shall expire if the work authorized by the permit is not commenced within 365 calendar days after the effective date of the permit, or if the authorized work is suspended or abandoned for a period of six months at any time after work has begun.

**7. Please indicate below the address any correspondence and permit approval should be mailed to:
(leave blank if address is the same as listed in paragraph #8 of the following page).**

8. PARTY WHO COMPLETED THIS APPLICATION.

Name of Firm _____ Certification # _____

Phone (_____) _____

Address _____

UST-010
03/97

City or Town _____

State _____ Zip Code _____

Contact Person _____ Certification # _____

Circle the Activity(ies), if any, for which the firm listed above holds Certification(s):

INSTALLATION RELEASE DETECTION CLOSURE SUBSURFACE EVALUATION TANK TESTER
CATHODIC PROTECTION SPECIALIST CATHODIC PROTECTION TESTER NO UST CERTIFICATIONS

**9. NAME(S) AND CERTIFICATION NUMBER(S) OF PARTY(IES) PERFORMING THE FOLLOWING UST
ACTIVITY(IES) specified in this application. (leave blank if not applicable)**

INSTALLATION OF TANK(S) AND/OR PIPING

Name of Firm _____ Firm Certification # _____

INSTALLATION OF RELEASE DETECTION EQUIPMENT

Name of Firm _____ Firm Certification # _____

INSTALLATION OF CATHODIC PROTECTION SYSTEM

Name of Firm _____ Firm Certification # _____

INSTALLATION OF OVERFILL AND/OR SPILL EQUIPMENT

Name of Firm _____ Firm Certification # _____

SUBSTANTIAL MODIFICATIONS THAT DO NOT INVOLVE CORROSION PROTECTION, SPILL AND OVERFILL
PREVENTION, OR RELEASE DETECTION

Name of Firm _____ Firm Certification # _____

When a selection of a firm to perform an activity proposed by this application has not been made at the time of this application's submittal, indicate in Section 9 above that a selection of a certified firm for that activity is pending. Once a firm is contracted to perform the UST activity, the party who signed Section 7 on page 2 of this application must notify the Department in writing of the names and certification numbers of the selected firm prior to commencement of the activities proposed in this application. Notify the Department in a likewise manner of any other changes to Section 9 above.

New Jersey Department of Environmental Protection
Bureau of Field Operations

APPLICATION FOR PERMIT

ATTACHMENT A: NEW INSTALLATIONS

I. ENGINEERING PLANS

Submit one (1) copy of a set of plans and specifications, signed and sealed by a New Jersey Professional Engineer, drawn to scale and depicting the top, front, and side views of the proposed underground storage tank system installation. The plan must show all information and detail to show compliance with the federal regulations, 40 CFR 280 et seq. for Underground Storage Tank Systems. Specifically, the plans must be submitted showing:

- the size and location of all new underground tank(s);
- all piping;
- all product-tight chambers and manways;
- any sumps;
- all bushings, couplings, fittings, joints, valves, flexible connectors and other appurtenances;
- pumps (labeled by pump type, i.e. submersible, centrifuge, suction);
- dispensers;
- any anodes and lead cables or wires;
- the location of the power source, if an impressed current system of cathodic protection is planned;
- any cathodic protection test stations;
- spill and overfill prevention equipment, including the size of any catchment basin(s);
- release monitoring systems, including monitoring points, sensors, lead wires, data printout locations, and any test stations;
- all existing structures on site;
- distances from tank(s) to property lines;
- distances from tank(s) to structures and utility lines;
- all boring, sampling and monitoring locations;
- fill port markings

The front and side views must also show the seasonal high water table, if known, in relation to the UST(s), to the monitoring locations, and the ground surface relative to the UST(s). The engineering plans must clearly show dimensions, distances, and materials used.

Every boring, sampling, and monitoring location must be designed with a number or letter for the purpose of identification. Each underground tank - whether empty, in use, abandoned, for emergencies only, etc. - must be labeled in accordance with the labeling instructions given on the Registration Questionnaire.

Certificate 1, located at the end of the Application, must be completed by a New Jersey Professional Engineer also certified by the Department as a Tank Installer, in accordance with N.J.S.A. 58:10A-24.1-8. That individual must also be employed by a business firm that is also certified by the Department for Tank Installation.

II. PROTOTYPES

Designate clearly as "prototype" or "master plan" any engineering plans and specifications that are intended to be used repeatedly at different UST facilities.

III. TANK AND PIPING DETAILS

Tank I.D.No.	_____	_____	_____	_____	_____
Use - (Use codes given in instructions)					
Tank Contents					
Tank Capacity (gal)					
Is the tank single walled?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No
Is the tank double walled?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No
Is the tank secondarily contained per 40 CFR 280.42(b) or 280.43(g)?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No
Is the piping single walled?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No
Is the piping double walled?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No

Tank I.D.No.	_____	_____	_____	_____	_____
Is the piping secondarily contained per 40 CFR 280.42(b) or 280.43(g)?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No
Dispensing system: (check one)	____ pressure ____ american ____ european	____ pressure ____ american ____ european	____ pressure ____ american ____ european	____ pressure ____ american ____ european	____ pressure ____ american ____ european

- List below the material(s) the tank(s) will be made of:

If the tank(s) will be made of material other than steel or fiberglass-reinforced plastic, and that material will be routinely in contact with regulated substances, attach verification from an independent 3rd party that the material complies with the codes and standards listed in 40 CFR 280.20(a)(1).

- List below the material(s) the piping will be made of:

- If the piping will be made of material other than steel or fiberglass-reinforced plastic, and that material will be routinely in contact with regulated substances, attach verification from an independent 3rd party that the material complies with the codes and standards listed in 40 CFR 280.20(b)(1).

IV. GENERAL DESIGN

1. Will the UST(s) have a remote fill port? ☐ Yes ☐ No
2. Will the UST(s) only be filled by a transfers of no more than 25 gallons or less of product at one time?
☐ Yes ☐ No

CATHODIC PROTECTION (NOTE: Check here if not applicable to your new UST system(s). ☐ N/A)

3. For metallic underground storage tank system only;

- a. Which type of cathodic protection applies:

☐ field installed sacrificial anodes on tank(s)?
☐ field installed cathodic protection on tank(s)?
☐ field installed cathodic protection on piping and appurtenances?

- b. If field impressed current system is to be used, how much current will be supplied continuously? Amps

c. If field installed cathodic protection is intended, it must be designed by a person certified by the Department as a cathodic protection specialist. The certified cathodic protection specialist must be employed by a business that is also certified by the Department for that service. The design of the cathodic protection system must be based upon measurements taken at the site. The cathodic protection system must be complete and include with this submittal **Certificate 2** located at the end of this application.

d. Attach plans, specification, and a testing schedule designed by a person certified as a Corrosion Specialist by the Department (pursuant to N.J.S.A. 58:10A-24.1-8) for the corrosion protection system to be installed. Please include the anode types and the weights, the type of connections used between the anodes and lead wires and tanks, any site interferences, and the expected life of the system.

The plans must be signed by the Cathodic Protection Specialist certified by the State of New Jersey. The Corrosion Protection Specialist must also be employed by a business firm that is certified as a Cathodic Protection Specialist by the Department.

RELEASE DETECTION SYSTEM

NOTE 1: In accordance with N.J.A.C. 7:14B-10.1, any person who is proposing to own or operate an underground storage tank and appurtenant piping that will be equipped with one of the Departments approved methods of secondary containment with interstitial monitoring capable of detecting a leak from the primary container, as specified in 40 CFR 280.43(g) and one that complies or will comply with the standards for new or existing USTs, as specified in 40 CFR 280.20 or 280.21, is NOT required to obtain a permit from the Department for a new installation of an UST. That person is required to obtain a construction permit issued pursuant to the New Jersey Uniform Construction Code, (N.J.A.C. 5:23), prior to the installation and to maintain at the underground storage tank facility the plans, specifications and site diagrams required by N.J.A.C. 7:14B-10.1(b).

NOTE 2: If the substance to be stored in the UST(s) is a hazardous substance other than a petroleum product, attach Certificate 3 (Located at the end of this Application) from a person certified by N.J.S.A. 58:10A-24.1-8 in **INSTALLATION or RELEASE DETECTION MONITORING SYSTEM INSTALLATION** or documentation from the manufacturer that the physical properties of the hazardous substances stored are appropriate for the monitoring system.

NOTE 3: By December 22, 1998 all UST systems containing hazardous substances other than petroleum products must be secondarily contained with interstitial monitoring which can detect a release from the primary container.

4. Check the method of release detection planned and submit an appropriate attachment.
 - a. ____ Inventory Control and Tank Tightness Tests; refer to Attachment RD-A for more information (page 31)
 - b. ____ Manual Tank Gauging; refer to Attachment RD-B for more information (page 32)
 - c. ____ Manual Tank Gauging and Tank Tightness Test; refer to Attachment RD-C for more information (page 33)
 - d. ____ Automatic tank gauges; complete Attachment RD-D (page 34)
 - e. ____ Vapor Monitoring; complete Attachment RD-E (page 35)
 - f. ____ Ground Water Monitoring; complete Attachment RD-F (page 37)
 - g. ____ Statistical Inventory Reconciliation; complete Attachment RD-G (page 39)
 - h. ____ Interstitial Monitoring, double walled tanks; complete Attachment RD-H (page 40)
 - i. ____ Interstitial Monitoring, secondary barrier within an excavation zone; complete Attachment RD-I (page 41)
 - j. ____ Interstitial Monitoring, internally fitted liner; complete Attachment RD-J (page 43)
 - k. ____ Other, complete Attachment RD-K (page 44)

PIPING RELEASE DETECTION SYSTEM:

5. Check the appropriate response concerning release detection planned and submit the attachment, if necessary.
 - a. No release detection system will be installed for the following reason:
 - i. ____ No appurtenant piping shall be installed.
 - ii. ____ European Suction piping shall be installed (underground piping meets the requirements set forth in 40 CFR 280.41(b)(2)(i-v).
 - b. Release detection system required by 40 CFR 280. Check the dispensing system and attach the appropriate attachment.
 - i. ____ Pressurized dispensing system; complete and submit Attachment Piping-Pressure. (page 46)
 - ii. ____ American Suction (underground piping meets the requirements of 40 CFR 280.41(b)(2), but is not European Suction piping as described in 5.a.ii above; complete and submit Attachment Piping-American Suction. (page 47)

New Jersey Department of Environmental Protection
Bureau of Field Operations

APPLICATION FOR PERMIT

ATTACHMENT B: EXISTING UST SYSTEMS

1. TANK AND PIPING DETAILS

Tank ID.NO.	_____	_____	_____	_____	_____
Use - (use code in instruction)					
Tank Contents					
Tank Capacity (gal)					
Year Installed (age)					
Is the tank single walled?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No
Is the tank double walled?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No
Is the tank secondarily contained per 40 CFR 280.42(b) or 280.43(g)?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No
Is the piping single walled?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No
Is the piping double walled?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No
Is the piping secondarily contained per 40 CFR 280.42(b) or 280.43(g)?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No

1. TANK AND PIPING DETAIL (continued)

Tank ID.NO.	_____	_____	_____	_____	_____
Dispensing system: (check one)	___ pressure ___ american ___ european	___ pressure ___ american ___ european	___ pressure ___ american ___ european	___ pressure ___ american ___ european	___ pressure ___ american ___ european
Is the tank made of steel?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No
Is the tank made of a FRP-Steel composite? (1)	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No
Is the tank made of FRP? (1)	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No
Is the piping only made of steel?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No
Is the piping only made of FRP plastic? (1)	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No

(1) Fiberglass - reinforced plastic

- If the tank(s) is made of material other than steel or fiberglass-reinforced plastic, and that material is routinely in contact with regulated substances, please identify that material below:

If this material will still be used after completion of the substantial modification, attach verification from an independent 3rd party that the material complies with the codes and standards listed in 40 CFR 280.20(a)(1).

- If the piping is made of material other than steel or fiberglass-reinforced plastic, and that material is routinely in contact with regulated substances, please identify that material below:

If this material will still be used after completion of the substantial modification, attach verification from an independent 3rd party that the material complies with the codes and standards listed in 40 CFR 280.20(b)(1).

- Is the UST system(s) and the substance stored chemically compatible such that they will not interact in a way that may undermine the integrity of the system or promote its corrosion? ☐ Yes ☐ No

- Similarly, for compartmentalized tanks, are the hazardous substances in each compartment chemically compatible with another in case of breaches in the compartment wall? ☐ Yes ☐ No ☐ N/A.

- Have all fill ports been permanently marked to identify the product stored inside the UST consistent with the colors and symbols established in API's Bulletin # 1637? ☐ Yes ☐ No.

2. SITE DIAGRAM

Submit one copy of the site diagram showing to scale the size and location of all underground storage tank systems, including dispensers, piping, pumps and anodes; all existing structures on the site; distances from the tank(s) to property lines; distances from tank(s) to structures and utility lines; and all borings, sampling, and proposed monitoring locations. All borings, sampling and monitoring locations must be designated with a number or letter for the purpose of identification. Label each underground tank, regardless of its status (such as empty, in use, abandoned, for emergency use, etc.) with the same identification numbers that were supplied on the Registration Questionnaire when they were initially registered with the Department.

Only one copy of the site diagram is required with this application. The Department has the discretion to require that drawings be prepared by a New Jersey Professional Engineer, such as when the "professional quality" drawings are inadequate. If possible, please do not submit drawings on paper larger than 8" x 11" or 8" x 14".

3. UNDERGROUND STORAGE TANK SYSTEM UPGRADING REQUIREMENT

3A TANK UPGRADING REQUIREMENTS

3A.1 APPLICABILITY

3A.1.a Are there any metal parts on any product-bearing component of the UST System(s) in contact with the soil?
☐ Yes ☐ No. If the answer is No, skip to Section 4, Attachment B. (METHODS OF SPILL AND OVERFILL PROTECTION, page 17).

If the answer is Yes, check below the component(s) of the UST system that **have existing corrosion protection** on its metallic parts that complies with 40 CFR 280.20(a)(2)(ii),(iii) and (iv).

☐ Tank(s) ☐ Piping

3A.1.b Describe the corrosion protection on the component(s) of the UST system checked above, the date of its installation, the expiration date of any warranties, and the frequency with which it is tested:

(attach additional pages, if necessary)

3A.1.c If the tank(s) and the appurtenant piping do not require the addition of corrosion protection, skip to Section 4, Attachment B (Methods of Spill and Overfill Protection, page 17).

If only the piping requires the addition of cathodic protection, skip to Paragraph #3B, Attachment B (Piping Upgrading Requirements, page 16).

3A.2 PLANS FOR ADDITION OF CORROSION PROTECTION TO THE TANKS.

Note: All internal linings must comply with API recommended practice 1631 and be performed pursuant to N.J.S.A. 58:10A-24.1-8.

Note: Certification in Installation in accordance with N.J.A.C. 58:10A-24.1-24 is required to interiorly line USTs.

(a) Please select the option to be implemented

(i) _____ Interior Lining only.

1. The lining for each tank must be installed in accordance in accordance with 40 CFR 280.22.
2. Within 10 years after lining and every five years thereafter, the lined tank must be internally inspected and must be found to be structurally sound with the lining still performing in accordance with original design specifications.

Skip to Paragraph #3B (Piping Upgrading Requirements, page 16).

(ii) _____ Cathodic Protection only (complete the following):

If only Cathodic Protection has been selected, please indicate which of the following methods were used to ensure the integrity of the tank. Attach any required information and then skip to Paragraph b of this section (Plans for Adding Cathodic Protection, page 16).

1. _____ **Tank(s) has been internally inspected by a person certified by N.J.S.A. 58:10A-24.1 et seq. as a Corrosion Specialist.** Attach results of the internal inspection with recommendations.
2. _____ **Tank(s) has been installed for less than 10 years and is monitored monthly for releases in accordance with 40 CFR 280.43 (d) through (h).** Attach results of all monitoring data collected since the installation of the UST or the last site assessment performed at the UST. If a site assessment was conducted, include the Department's "No Further Action Letter". Include with this monitoring data the name of the products and their manufacturers that were used to obtain these results. Also include other information necessary to interpret that information if necessary, such as maps of ground water flow direction. In addition to this monitoring data, include the following information, if appropriate.
 - a. If the USEPA has issued performance standards and Standard Testing Procedures for the method of leak detection used, you must include with this application an independent 3rd party certification indicating that the manufacturer's product or method meets the performance standard.
 - b. Except for ground water or vapor monitoring systems, attach Certificate 4 #1 (located at the end of this Application) from a person certified by N.J.S.A. 58:10A-24.1-8 in INSTALLATION or RELEASE DETECTION indicating that the monitoring system used is appropriate.
 - c. For ground water or vapor monitoring systems, attach Certificate 4 #2 (located at the end of this Application) from a person certified by N.J.S.A. 58:10A-24.1-8 as a SUBSURFACE EVALUATOR indicating that the monitoring system utilized is appropriate for the site conditions and that the locations of the monitoring devices are appropriate.
3. _____ **Tank(s) has been installed for less than 10 years and has been assessed for corrosion holes by conducting tightness tests that meet the requirements of 40 CFR 280.43(c).** Attach certification from the manufacturer that its product meet the performance standards for the test described in Standard Test Procedures for Evaluating Leak Detection Methods (EPA/530/UST-90/004 or /005). Attach the results of the tests.
4. _____ **Tank(s) has been assessed by a method determined by the Department to be no less protective of human health and the environment than any of the other options listed in this Section (3A.2(a)i, ii, and iii).** Attach the results of the assessment. Include a copy of the procedure's method and a copy of the Department's or USEPA's approval.

(iii) _____ Internal Lining in accordance with 40 CFR 280.21 combined with Cathodic Protection.

(b) PLANS FOR ADDING CATHODIC PROTECTION

Attach plans, specification, and a testing schedule designed by a person certified as a Corrosion Specialist _____ by the Department (pursuant to N.J.S.A. 58:10A-24.1 et seq.) for the corrosion protection system to be installed. The design of the cathodic protection system must be based upon measurements taken at the site. Please include the design calculations and the date the field measurements were collected. Also include the anode types and the weights, the type of connections used between the anodes and lead wires and tanks, any site interferences, and the expected life of the system.

The plans must be signed a Cathodic Protection Specialist certified by the State of New Jersey. Certificate 5 (located at the end of this Application) must also be completed, signed by this Cathodic Protection Specialist and attached to the plans. The certified Corrosion Protection Specialist must also be employed by a business firm that is certified as a Cathodic Protection Specialist by the Department.

3B PIPING UPGRADING REQUIREMENTS

_____ Check here if the existing piping will continue to be used and this piping either does not require cathodic protection or has adequate cathodic protection. Skip to Section 4, Attachment B (METHODS OF SPILL AND OVERFILL PROTECTION, page 17). If this paragraph is not checked, continue to Section 3B.1 below.

3B.1 PLANS FOR PIPING UPGRADING REQUIRED.

Please check the applicable statement, attach information if necessary, and skip to Section 4, Attachment B (page 17).

- i. _____ New fiberglass-reinforced plastic piping as specified in 40 CFR 280.20(b)(1) shall replace the existing piping. Skip to Section 4, Attachment B (METHODS OF SPILL AND OVERFILL PROTECTION).
- ii. _____ New non-metallic piping other than fiberglass-reinforced plastic piping shall replace the existing piping. Attach verification that the material complies with the codes and standards listed in 40 CFR 280.20(b)(1). Skip to Section 4, Attachment B (METHODS OF SPILL AND OVERFILL PROTECTION).
- iii. _____ Existing steel piping shall continue to be used. This steel piping shall be assessed for corrosion holes and replaced if necessary. Submit report with the results of assessment with recommendations. The piping must be cathodically protected and meet the requirements of 40 CFR 280.20(b)(2)(ii), (iii), and (iv). Submit the information required in Section 3A(2)(b) (PLANS FOR ADDING CATHODIC PROTECTION) listed at the top of this page and then skip to Section 4, Attachment B, (METHODS OF SPILL AND OVERFILL PROTECTION).
- ii. _____ New steel piping shall replace the existing steel piping. The piping must be cathodically protected and meet the requirements of 40 CFR 280.20(b)(2)(ii), (iii), and (iv). Submit the information required in Section 3A(2)(b) (PLANS FOR ADDING CATHODIC PROTECTION) listed at the top of this page and then skip to Section 4, Attachment B, (METHODS OF SPILL AND OVERFILL PROTECTION).

4. METHODS OF SPILL AND OVERFILL PREVENTION

4.A Does a method of spill prevention already exist on the USTs in conformance with 40 CFR 280.20(c)?

_____ No _____ Yes and will continue to use the same spill prevention method _____ Yes, but will use a new spill prevention method in the future

4.B Describe new or existing methods of spill prevention that will be used or will continue to be used. State if the methods include a catchment basin(s) (with its size) or a product-tight chamber(s) around the fill pipe.

4.C Does the UST system have a remote fill port? ☐ Yes ☐ No

4.D Will the UST(s) only be filled by transfers of 25 gallons or less of product at one time?

☐ Yes ☐ No

4.E Does a method of overfill prevention already exist on the UST(s) in accordance with 40 CFR 280(c)(ii)?

☐ No ☐ Yes, and will continue to use ☐ Yes, but will use the
existing method a new method in the future.

4.F For new or existing overfill prevention devices that will be used or will continue to be used:

--- Is there a visual or audible alarm(s) as part of the overfill protection devices? ☐ Yes ☐ No

If Yes, at what percentage of tank fullness will the alarm be triggered? _____ %

or

At what time before completely filling tank will the alarm be triggered? _____ minutes

--- Does the overfill protection device(s) stop flow? ☐ Yes ☐ No

If Yes, at what percentage of tank fullness will the overfill protection device(s) stop the flow _____ %

--- Does the overfill protection device(s) restrict flow? ☐ Yes ☐ No

If Yes, at what percentage of tank fullness will the overfill protection device(s) restrict the flow? _____ %

or

At what time before completely filling will the overfill device(s) restrict flow? _____ minutes

5. RELEASE DETECTION SYSTEMS FOR EXISTING UNDERGROUND STORAGE TANK SYSTEMS

- If the substance stored in the UST(s) is a hazardous substance other than a petroleum product, attach Certificate 3 (at the end of this Application) from a person appropriately certified by N.J.S.A. 58:10A-24.1-8 or documentation from the manufacturer that the stored hazardous substances are appropriate for the selected release detection system.

5A. Is the existing underground storage tank(s) presently equipped with a release detection system?

☐ No ☐ Yes and will continue to use ☐ Yes, but will install a
the same release detection system new release detection system

note 1: By December 22, 1993, release detection was required for all tanks.

note 2: By December 22, 1998 all UST systems containing hazardous substances other than petroleum products must be secondarily contained with interstitial monitoring which can detect a release from the primary container.

If you plan to continue to use the existing release detection system, include a copy of a permit approving the monitoring system and skip to Section 5C (RELEASE DETECTION SYSTEM FOR THE PIPING). Complete Section 5B if you 1) plan to install a new release detection system, 2) plan not to replace your existing system but cannot locate your permit, 3) never obtained a permit or 4) have been operating the release detection system prior to September 4, 1990.

5B. Check the method of tank release detection planned or currently in use for the tank(s) and submit an appropriate attachment.

1. ____ Inventory Control and Tank Tightness Testing; refer to Attachment RD-A for additional information (page 31).
2. ____ Manual tank gauging (tanks of 550 gallons or less only); refer to Attachment RD-B for information (page 32).
3. ____ Manual tank gauging and Tank Tightness Testing; (tanks of 551 gallons to 2,000 gallons only); refer to Attachment RD-C for additional information on this method (page 33).
4. ____ Automatic tank gauging; complete and attach Attachment RD-D (page 34).
5. ____ Vapor Monitoring; complete and attach Attachment RD-E (page 35).
6. ____ Ground Water Monitoring; complete and attach Attachment RD-F (page 37).
7. ____ Statistical Inventory Reconciliation Method (SIR); complete and attach Attachment RD-G (page 39).
8. ____ Interstitial Monitoring, double walled tanks; complete and attach Attachment RD-H (page 40).
9. ____ Interstitial Monitoring, secondary barrier within an excavation; complete and attach Attachment RD-I (page 41).
10. ____ Interstitial Monitoring, internally fitted liner; Complete and attach Attachment RD-J (page 43).
11. ____ Other; complete Attachment RD-K (page 44).

5C RELEASE DETECTION SYSTEM FOR THE PIPING

Is the existing underground piping presently equipped with a release detection system?

____ No ____ Yes and will continue to use
the same release detection system ____ Yes, but will install a
new release detection system

If you plan to continue to use the existing piping release detection system, include a copy of the permit approving the monitoring system and skip to Section 6 (SUBSTANTIAL MODIFICATIONS THAT DO NOT INVOLVE CORROSION PROTECTION, SPILL AND OVERFILL PREVENTION, OR RELEASE DETECTION). Complete Section 5C1 and 5C2 (below) if you 1) plan to install a new release detection system, 2) plan not to replace your existing system but cannot locate your permit, 3) never obtained a permit or 4) have been operating the piping release detection system prior to September 4, 1990.

1. No piping release detection system required for the following reason:

- a. ____ No appurtenant piping; skip to Section 6.
- b. ____ European Suction piping installed (underground piping meets the requirements of 40 CFR 280.41(b)(2)(i) to (v)): skip to Section 6.

2. Release detection system required by 40 CFR 280.

Check the appropriate dispensing system for UST system and submit the appropriate attachment.

- i. ____ Pressurized dispensing system. Complete and submit Attachment Piping-Pressure (page 45).
- ii. ____ American Suction (underground piping meets the requirements of 40 CFR 280.41(b)(2)(b) but is not European Suction as described by 5C1.b above). Complete and submit Attachment Piping-American Suction (page 47).

note 1: By December 22, 1990, release detection was required for all pressurized piping.

note 2: By December 22, 1993, release detection was required for all suction piping.

note 3: By December 22, 1998 all UST systems containing hazardous substances other than petroleum products must be secondarily contained with interstitial monitoring which can detect a release from the primary container.

note 4: Installation of only an automatic line leak detector does not require a permit.

6. SUBSTANTIAL MODIFICATIONS THAT DO NOT INVOLVE CORROSION PROTECTION, SPILL AND OVERFILL PREVENTION, OR RELEASE DETECTION

Note: Please refer to the Permit Application's Instructions WHO DOES NOT NEED A PERMIT to determine if a substantial modification permit is required in your case.

-The following repairs require a permit :

- i. repairs involving cutting the tank shell;**
- ii. repairs affecting the cathodic protection system; or**
- iii. repairs that affect the storage capacity, physical configuration or integrity of the facility or its monitoring system;**

-The following do not require a permit

- i. The installation of only an automatic line leak detector as required by 40 CFR 280.41(b)(1)(i);**
- ii. Any other activities which, upon written determination by the Department, will not affect storage capacity, physical configuration, or the physical integrity of the facility or its monitoring system.**

A. Attach a detailed narrative description of the proposed substantial modification(s) to the UST system(s).

B. Attach one drawing of professional quality that accurately depicts the proposed substantial modification(s). Complete and submit **Certification 6**, located at the end of this Application from a person appropriately certified by N.J.S.A. 10A-24.

C. Substantial modifications that involve repairing, installing or replacing parts of the UST system, must be conducted by individuals appropriately certified by N.J.S.A. 58:10A-24.1-8.

1. Will the repair - including the installation of any interior linings - be performed in accordance with API Publications # 1631 or #2200 or NFPA Standard 30? ____ Yes ____ No*

2. Are all faulty fittings being replaced instead of repaired? ____ Yes ____ No ____ N/A*

3. Are damaged sections of metal piping being replaced instead of repaired? ____ Yes ____ No ____ N/A*

4. If the tank, piping, appurtenances, or fittings are metal, have the new parts and connections been included in the cathodic protection design? ____ Yes ____ No ____ N/A*

* If No or N/A, please explain:_____

Note: The UNDERGROUND STORAGE ACT SERVICES CERTIFICATION ACT, N.J.S.A. 58:10A-24.1 et seq., requires that any services performed on an UST system for the purposes of complying with P.L. 1986 c.102 must be performed by, or under the immediate on-site supervision of, a person certified by the Department for that service. The certified person providing that service must be employed by a business that is certified by the Department for that service. Please note the following exception to this requirement. A certified permanent employee of the owner or operator may perform maintenance or repair activities without the owner or operator needing to obtain the certification for the firm.

SIGNATURES

(page 1 of 4)

- A. The following certification shall be signed by the highest ranking individual with overall responsibility for that facility.

"I certify under penalty of law that the information provided in this permit application and all attachments is true, accurate and complete. I am also aware that there are significant civil and criminal penalties for submitting false, inaccurate or incomplete information, including fines and/or imprisonment."

Type/Print Name _____

Title _____

Signature _____

Date _____

Name of Business/Entity

AGENT'S CERTIFICATION

Sworn before me

this _____ day of

(month) (year)

SIGNATURES

(PAGE 2 OF 4)

B. The following certification must be signed as follows:

- (1) For a corporation, by a principal executive officer of at least the level of vice president;
- (2) For a partnership or sole proprietor, by a general partner or the proprietor, respectively;
- (3) For a municipality, State, Federal or other public agency, by either the principal executive officer or ranking elected official.
- (4) **If the individual required to sign the above certification (A) is the same person as the individual required to sign this certification (B), only the above certification (A) needs to be completed, and a check-mark placed in this box [].**

"I certify under penalty of law that I have personally examined and am familiar with the information submitted in this application and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate and complete. I am aware that there are significant civil and criminal penalties for submitting false, inaccurate or incomplete information, including fines and/or imprisonment."

Type/Print Name _____

Title _____

Signature _____

Date _____

Name of Business/Entity _____

AGENT'S CERTIFICATION

Sworn before me

this _____ day of

(month) (year)

SIGNATURES

(PAGE 3 OF 4)

C. APPLICANT AGENT

I, the Applicant Owner _____ or Applicant Operator
(when the owner of facility and the operator of the facility are distinct
parties) _____
or Co-permittee (when the Co-permittee is a local government unit)

authorize to act as my agent/representative in all matters pertaining to my application
the following person.

Name _____ Phone _____

Address _____ County _____

City or Town _____ State _____

Zip Code _____

Occupation/Profession _____

Business Firm _____

Signature of Applicant Owner

Signature of Applicant Operator

Signature of Co-permittee

AGENT'S CERTIFICATION

Sworn before me

this _____ day of

(month) (year)

SIGNATURES

(PAGE 4 OF 4)

D. PROPER CONSTRUCTION AND OPERATION

I, the Applicant Owner _____ or

Applicant Operator (when the owner of the facility and the operator of the facility are

distinct Parties)_____ or the Co-permittee (when the

Co-permittee is a local government unit)_____

agree that the work will be properly constructed and operated in accordance with the engineering plans and specifications, as approved, and the conditions under which

approval is granted by the State Department of Environmental Protection.

(Signature of Applicant/Owner)

(Signature of Applicant/Operator)

(Signature of Co-permittee)

Note: The UNDERGROUND STORAGE ACT SERVICES CERTIFICATION ACT, N.J.S.A. 58:10A-24.1 et seq., requires that any services performed on an UST system for the purposes of complying with P.L. 1986 c.102 must be performed by, or under the immediate on-site supervision of, a person certified by the Department for that service. The certified person providing that service must be employed by a business that is certified by the Department for that service. Please note the following exception to this requirement. A certified permanent employee of the owner or operator may perform maintenance or repair activities without the owner or operator needing to obtain the certification for the firm.

UST-010
02/97

CERTIFICATION #1 - N.J. PROFESSIONAL ENGINEER

(For New Installations)

This certification must accompany the plans and specifications submitted to the Bureau of Field Operations for the new installation of an underground storage tank system(s), per Attachment A, Page 5 of the Permit Application.

The UST system design(s) meets the requirements of the New Jersey Underground Storage Tank (UST) Regulations (N.J.A.C. 7:14B-1 et seq.), including the following features:

- materials to be used are consistent with those allowed in the New Jersey Uniform Construction Code (N.J.A.C. 7:14B-1 et seq.)
- product to be stored is compatible with the UST system(s) materials and, in the case of a compartmentalized tank(s), the products to be stored are compatible with each other
- striker plates are present
- an acceptable overfill device is present
- the fill pipe is surrounded by a spill catchment basin, OR the fill pipe is contained within a product-tight piping chamber
- liquid-tight piping joints are designed
- cathodic protection and dielectric coating are present on all product-bearing metal tanks/piping/parts in contact with the soil
- isolating fittings exist between any cathodically protected metal and any non-product-bearing, unprotected metal parts
- lead wires between any anodes and corrosion-protected metal power cables are attached so as to provide good electrical conduction
- a measuring station accessible to grade is present to enable any cathodic protection system to be tested periodically
- the tanks and piping constructions and the method of cathodic protection conform to the standards published by UL of Canada, ASTM, STI, NACE, API, NFPA, ACT, ANSI or PEI
- a monitoring system - in accordance with the UST Regulations - for the detection of releases from any part of the UST system is present
- the monitoring system intended is appropriate for the product stored and is appropriate for the site conditions according to the requirements of N.J.A.C. 7:14B-6
- all electronic monitoring systems, if used, are capable of detecting less than or equal to 0.2 gallon per hour release rates or releases of 150 gallons within a month with a 0.95 probability of detection and a 0.05 probability of a false positive result.

"I certify under penalty of law that the information provided in this document is true, accurate and complete and is in conformance with the requirements of this chapter [the New Jersey UST Regulations, N.J.A.C. 7:14B-1 et seq.]. I am aware that there are significant civil and criminal penalties for submitting false, inaccurate, or incomplete information, including fines and/or imprisonment."

Type/Print Name _____ Title _____

Signature _____ Date _____

Certification Number of Individual _____

Name of Business _____

Certification Number of Business Firm _____

N.J. License No. _____ P.E. Seal

CERTIFICATION #2 - CORROSION EXPERT

(For New Installations with Field-Installed Cathodic Protection)

This certification must be submitted to the Bureau of Field Operations for all new underground storage tank system installations where field-installed cathodic protection is designed per Attachment A, Section VI 3.c, Page 8 of the Permit Application.

- The cathodic protection does conform to the following standards:

- a. NACE RP-02-85 or API Bulletin #1632, and UL Standard 58; or
- b. UL of Canada CAN4-S603-M85

- The underground storage tank appurtenant piping equipped with a field-installed cathodic protection system is dielectrically coated to the following standards:

- a. NFPA Standard 30; or
- b. API's Bulletins #1615 and #1632; or
- c. NACE Standard RP-01-69; or
- d. STI R892-89

Type/Print Name _____ Title _____

Signature _____ Date _____

Certification Number of Individual _____

Name of Business _____

Certification Number of Business Firm _____

CERTIFICATION #3

This certification is to be submitted to the Bureau of Field Operations to indicate the appropriateness of a system used to monitor an UST system containing hazardous substances other than petroleum products per Attachment A, Section IV, page 9 (General Design, Release Detection System) or Attachment B, Section 5, Page 18 (Release Detection Systems for Underground Storage Tanks).

"I certify under penalty of law that the physical properties of the stored hazardous substance, which is not a petroleum product, is appropriate for the selected monitoring system."

Type/Print Name _____ Title _____

Signature _____ Date _____

Certification Number of Individual _____

Name of Business _____

Certification Number of Business Firm _____

Note: The persons and the business firm listed above must be certified by N.J.S.A. 58:10A-24.1-8 for Release Detection or Installation.

CERTIFICATION #4

CERTIFICATION REQUIRED WHEN MONTHLY MONITORING DATA IS USED TO ENSURE THE INTEGRITY OF UST(S)

1. For ground water or vapor monitoring release detection systems only:

"I certify under penalty of law that the release detection system used is effective, given the site conditions and locations of the monitoring devices, and that the existing monitoring system complies with 40 CFR 280.43 and 280.44."

List Method of Release Detection used for UST(s): _____

List Method(s) of Release Detection used for piping: _____

_____ Name	_____ Individual Certification #
_____ Business Firm	_____ Firm Certification #

Note: The person and the business firm listed above must be certified by N.J.S.A. 58:10A-24.1-8 for SUBSURFACE EVALUATION ACTIVITIES

2. For release detection systems other than ground water or vapor monitoring:

"I certify under penalty of law that the release detection system used is effective, given the type of the monitoring device(s) and/or methods employed, and that the existing monitoring system complies with 40 CFR 280.43 and 280.44."

List Method of Release Detection used for UST(s): _____

List Method(s) of Release Detection used for piping: _____

_____ Name	_____ Individual Certification #
_____ Business Firm	_____ Firm Certification #

Note: The person and the business firm listed above must be certified by N.J.S.A. 58:10A-24.1-8 for Release Detection or Installation.

CERTIFICATION #5

(For Corrosion Protection on Existing UST Systems)

This certification must accompany plans and specifications and a testing and maintenance schedule designed by a corrosion specialist for the purpose of installing corrosion protection systems on underground storage tank systems which were existing prior to September 4, 1990, the effective date of the New Jersey UST Regulations, N.J.A.C. 7:14B-1 et seq. (Refer to Attachment B 3A.2 (b), Page 16 of the Permit Application.)

The designed corrosion protection must be in accordance with the requirements set forth in 40 CFR 280.

"I certify under penalty of law that the information provided in this document is true, accurate, and complete and is in conformance with the requirements of N.J.A.C. 7:14B-10. I am aware that there are significant civil and criminal penalties for submitting false, inaccurate or incomplete information, including fines and/or imprisonment."

Type/Print Name _____ Title _____

Signature _____ Date _____

Certification Number of individual _____

Name of Business _____

Certification Number of Business Firm _____

CERTIFICATION #6

**SUBSTANTIAL MODIFICATIONS THAT DO NOT INVOLVE CORROSION PROTECTION, SPILL AND OVERFILL
PREVENTION, OR RELEASE DETECTION**

This certification may be submitted to the Bureau of Field Operations when a substantial modification (other than the installation of discharge monitoring systems, corrosion protection, overfill prevention, or spill protection) is intended to be performed, per Attachment B Section 6, Page 20 of the Permit Application.

"I certify under penalty of law that the information provided in this document is true, accurate, and complete and is in conformance with the requirements of N.J.A.C. 7:14B-10. I am aware that there are significant civil and criminal penalties for submitting false, inaccurate or incomplete information, including fines and/or imprisonment."

Type/Print Name _____ Title _____

Signature _____ Date _____

Certification Number of individual _____

Name of Business _____

Certification Number of Business Firm _____

ATTACHMENT RD-A, INVENTORY CONTROL AND TANK TIGHTNESS TESTS (40 CFR 280.43(a) & (c))

After December 22, 1998, inventory control cannot be used as a method of release detection for UST systems containing hazardous substance other than petroleum products or waste oil.

Refer to 40 CFR 280.41 as to the date when Inventory Control and Tank Tightness Tests can no longer be used as a method of release detection for UST systems containing petroleum products or waste oil.

1. If you own or operate a petroleum underground storage tank, refer to 40 CFR 280.41(a) as to when you may no longer use inventory control and tank tightness tests as a release detection method.
2. The Department has a available a workbook developed by the USEPA, entitled **UST Inventory Control and Manual Tank Gauging, Procedures and Forms**. It may answer questions on this method. Please call the Bureau of Underground Storage Tanks at (609) 292-8761 or the Bureau of Field Operations at (609) 633 - 0708 to request a copy.
3. Owners and Operators of Underground Storage Tanks shall implement inventory control as set forth in 40 CFR 280.43(a) (Inventory Control) and Tank Tightness Testing as set forth in 40 CFR 280.43(c).

Note: the manufacturer of the tank tightness test that was used must have submitted to the USEPA the results of an independent 3rd party certifications verifying that their product meets performance standards described in the Standard Test Procedures for Evaluating Leak Detection Methods (EPA/530/UST-90/004 or /005).

ATTACHMENT RD-B, MANUAL TANK GAUGING ONLY (40 CFR 280.43(b))

After December 22, 1998, manual tank gauging cannot be used as a method of release detection for USTs containing hazardous substances other than petroleum products or waste oil.

1. Owners and Operators of tanks of 550 gallons or less nominal capacity may use this as the sole method of release detection.
2. Owners and Operators of Underground Storage Tanks must meet the requirements of manual tank gauging as set forth in 40 CFR 280.43(b) (Manual Tank Gauging).
3. The Department has a available a workbook developed by the USEPA, **UST Inventory Control and Manual Tank Gauging - Procedures and Forms**, that may clarify questions you may have on this method. Please call the Bureau of Underground Storage Tanks at (609) 292 - 8761 or the Bureau of Field Operations at (609) 633 - 0708 to request a copy.

ATTACHMENT RD-C, MANUAL TANK GAUGING AND TANK TIGHTNESS TEST (40 CFR 280.43(b))

After December 22, 1998, manual tank gauging cannot be used as a method of release detection for UST systems containing hazardous substances other than petroleum products or waste oil.

Refer to 40 CFR 280.41 as to the date when Manual Tank Gauging and Tank Tightness Tests can no longer be used as a method of release detection for UST systems with tanks of 551 to 2,000 gallons containing petroleum products or waste oil.

1. Owners and Operators of Underground Storage Tanks of 551 to 2,000 gallons may use manual tank gauging to meet monthly inventory control requirements set forth in 40 CFR 280.41(a) and 280.43(a) (Inventory Control).
2. The Department has available a workbook developed by the USEPA, **UST Inventory Control and Manual Tank Gauging - Procedures and Forms**. It may clarify your questions on the Inventory Control method. Please call the Bureau of Underground Storage Tanks at (609) 292-8761 or the Bureau of Field Operations at (609) 633 - 0708 to request a copy.
3. Owners and Operators of Underground Storage Tanks must conduct tank tightness testing according to 40 CFR 280.43(c) and to the schedules listed in 280.41. Note: the manufacturer of the tank tightness test that was used must have submitted to the USEPA the results of an independent 3rd party certifications verifying that their product meets performance standards described in the Standard Test Procedures for Evaluating Leak Detection Methods (EPA/530/UST-90/004 or /005).

ATTACHMENT RD-D, AUTOMATIC TANK GAUGING FOR UNDERGROUND STORAGE TANKS (40 CFR 280.43(d))

After December 22, 1998, automatic tank gauging cannot be used as a method of release detection for UST systems containing hazardous substances other than petroleum products or waste oil.

1. Will the Automatic Tank Gauge be used to provide Inventory Control only? ☐ Yes ☐ No

If YES is checked, this Attachment is not appropriate. Refer to Attachment RD-A for more information.

2. Name of manufacturer and Model of the automatic tank gauge and probe to be used.

3. Is the electronic monitoring system, if used, capable of detecting less than or equal to 0.2 gallons per hour release rates from any portion of the UST that routinely contains product?

☐ Yes ☐ No *

4. If this is an existing system, has this Automatic Tank Gauge been permanently installed and used prior to December 22, 1990?

☐ Yes ☐ No

If you checked Yes, please attach either (1) any performance claims and their manner of determination by the equipment manufacturer or installer or (2) the results of an independent 3rd party evaluation as described by paragraph #5 below and skip paragraph #5.

If you checked No, submit the information requested in paragraph #5.

5. Please provide results of an evaluation of the automatic tank gauge method conducted by an independent 3rd party that indicates this leak detection method meets or exceeds the accuracy requirements stated in 40 CFR 280.43(d) and that the method is capable of detecting the specified leak rate with a probability of detection of 0.95 and a probability of false alarm of 0.05. The evaluation must have been conducted according to the procedures set forth in the Standard Test Procedures for Evaluating Leak Detection Methods (EPA/530/UST-90/006).

* - If No is checked, the automatic tank gauge is not suitable to comply with the requirements of 40 CFR 280.43(d)

ATTACHMENT RD-E, VAPOR MONITORING FOR UNDERGROUND STORAGE TANKS\PIPING

40 CFR 280.43(e)

After December 22, 1998, vapor monitoring cannot be used as a method of release detection for UST systems containing a hazardous substance(s) other than petroleum products or waste oil.

____ Check here if this Attachment is for Underground Storage Tank(s) only.

____ Check here if this Attachment is for Piping only.

____ Check here if this Attachment is for Underground Storage Tank(s) and Appurtenant Piping.

Submit a report that provides the Department with plans and specifications for a vapor monitoring release detection system that meets the following requirements:

- (1) The materials used as backfill in the excavation zone(s) and the material surrounding the vapor monitoring point of the UST(s) and/or the piping are sufficiently porous (e.g. gravel, sand, crushed rock) to readily allow diffusion of vapors from releases into the excavation area;
- (2) The stored regulated substance, or a tracer compound placed in the tank system, is sufficiently volatile (e.g. gasoline) to result in a vapor level that is detectable by the monitoring devices in the event of a release from the UST(s) and/or piping;
- (3) The measurement of vapors by the monitoring device is not rendered inoperative by the ground water, rainfall, or soil moisture or other known interferences so that a release could go undetected for more than 30 days;
- (4) The level of background contamination in the excavation zone will not interfere with the method used to detect releases in the tank;
- (5) The vapor monitors are designed and operated to detect any significant increase in concentration above background of the regulated substance or a component of that substance stored in the UST system;
- (6) The number and positioning of monitoring wells that will detect releases within the excavation zone from any portion of the tank that routinely contains product; and
- (7) Monitoring wells are clearly marked and secured to avoid unauthorized access and tampering.

To ensure compliance with the above paragraphs, the report should include, but not necessarily be limited to, the following information:

1. The model name and manufacturer of the vapor monitor to be used to detect regulated substances stored in the tank system.
2. A copy of the results of an evaluation of the vapor monitor conducted by a qualified party other than the manufacturer that shows that the leak detection method meets or exceeds the accuracy requirements stated in 40 CFR 280.43(e). The evaluation must have been conducted according to the procedures set forth in the Standard Test Procedures for Evaluating Leak Detection Methods (EPA/530/UST-90/008).
3. Recommendations made by the manufacturer of the vapor monitoring device on the design and operation of the system, including the following criteria:
 - a. The materials recommended to be used in the backfill of the excavation zone and/or the minimum allowable permeability.

- b. The recommended volatility of the stored product (or tracer compounds).
 - c. The maximum recommended level of background contamination in the excavation zone.
 - d. The recommended detection limit that the vapor monitors should be set to (% over background).
 - e. Recommendations on how to determine the level of background contamination, including the number of soil borings to be drilled around each UST and piping run.
 - f. The recommended number and positioning of monitoring well(s) and/or piping that will detect releases within the excavation zone from any portion of a tank.
- 4. Name of instruments used to detect the background contamination levels, the detection limit of that instrument and how it was calibrated.
 - 5. Any calibration curves used in soil vapor analysis.
 - 6. Description of how the soil vapor samples were collected and the means by which they were analyzed. If they were analyzed at a state-certified laboratory (certified for ground water sample analysis) describe how they were transported and attach the results.
 - 7. Name(s) and UST certification number(s) of the individual(s) and the firm responsible for the design of the system.

NOTE 1: The soil vapor concentration and detection limit over background must be answered relative to the product being stored, not in terms of any other substance. If measurements in terms of another substance had to be "converted" into terms of the product stored, specify how the conversion was made. The explanation shall include appropriate information, such as calibration curves.

NOTE 2: "Borings" are defined as holes without casings that are drilled or otherwise constructed for the purpose of obtaining hydrogeological, geological, geophysical, or engineering data. Permits must be obtained for borings that are greater than 25 feet deep and all cased borings. Contact the Bureau of Water Allocation at (609) 984-6831.

ATTACHMENT RD-F, GROUND WATER MONITORING FOR UNDERGROUND STORAGE TANKS\PIPING (40 CFR 280.54(f))

After December 22, 1998, ground water monitoring cannot be used as a method of release detection for UST systems containing hazardous substances other than petroleum products or waste oil.

____ Check here if this Attachment is for Underground Storage Tank(s) only.

____ Check here if this Attachment is for Piping only.

____ Check here if this Attachment is for Underground Storage Tank and Appurtenant Piping.

1. Is the regulated substance stored immiscible in water and have a specific gravity of less than 1.0?

____ Yes ____ No

(If No is checked, ground water monitoring is not appropriate.)

2. Boring Results (see definition of "boring" in the glossary of the instructions)

Results of one boring drilled adjacent to existing UST and less than or equal to 15 feet below the bottom of the tank excavation area:

(a) ____ Check here if soil analysis was not done because the backfill of the existing UST(s) is entirely homogenous and consists of materials recommended by the tank or piping manufacturer.

Backfill Material: _____

(If (a) above was checked, all wells used to monitor USTs must be installed in the backfill (excavation zone) of the existing UST(s).)

(b) Soils determined by textural analysis of split spoon samples:

Soil type at 5 foot depth _____

Soil type at 10 foot depth _____

Soil type at 15 foot depth _____

(c) Standard Method of Soil Classification used (i.e. Burmeister, Unified, U.S. Department of Agriculture, etc.):

(Note: if monitoring wells are not to be installed in backfill pursuant to (a) above, the hydraulic conductivity of the soil(s) between the UST system and the monitoring wells or devices cannot be less than 0.01 centimeter/second [e.g. the soil should consist of gravel, coarse to medium sands, coarse silts or other permeable materials]).

(d) Highest seasonal water table: _____ feet below ground surface.

How was highest seasonal water table determined? _____

(Note: Ground water must be never more than 20 feet from the ground surface).

(e) Was the boring drilled and sealed in accordance with borehole drilling requirements of N.J.A.C. 58:4A-4.1 et seq.)? ____
Yes ____ No

If additional borings were performed, **attach** those results on a separate page.

3. Ground Water Investigation

Attach the results of a ground water investigation that recommends the number(s) and positioning of monitoring well(s) that will detect releases from any portion of the tank/piping that routinely contains product.

4. Description of Monitoring System

Attach a detailed description of the monitoring system to be installed. The description should include:

- a. A scaled map showing the location of all monitoring wells based on the results of the ground water study required in paragraph #3 above. The monitoring wells or devices must intercept the excavation zone or be as close to it as is technically feasible.

The design of the monitoring wells. The design must include the following:

- i. The slotted portion of the monitoring well casing must be designed to prevent migration of natural soils or filter pack into the well and to allow the entry of a regulated substance on the water table into the well under both high and low ground-water conditions.
 - ii. Monitoring wells must be sealed from the ground surface to the top of the filter pack.
 - iii. The monitoring wells must be secured to avoid unauthorized access and tampering. The wells must also be marked with the words "for monitoring only", the UST number listed on the Registration Certificate and, if applicable, the well drilling permit number.
- b. Permits for the monitoring wells must be obtained from the Department's Bureau of Water Allocation [(609) 984-6831] for all drilled monitoring wells.
- c. The continuous monitoring devices or manual methods used can detect the presence of at least one-eighth of an inch of free product on top of the ground water in the monitoring wells. The methods used for manual monitoring must follow the most recent version of the Department's Field Sampling Procedure Manual.
- d. If a liquid phase out-of-tank product detector is used for a monitoring device, provide results obtained from an independent 3rd party that shows that this leak detection method meets or exceeds the accuracy requirements stated in 40 CFR 280.43(f). The evaluation must have been conducted according to the procedures set forth in the Standard Test Procedures for Evaluating Leak Detection Methods (EPA/530/UST-90/009).
- e. Name(s) and UST certification number(s) of the individual(s) and the firm responsible for designing the system.

ATTACHMENT RD-G, STATISTICAL INVENTORY RECONCILIATION (SIR) (40 CFR 280.43(h))

After December 22, 1998, SIR methods cannot be used as a method of release detection for USTs systems containing hazardous substance other than petroleum products and waste oil.

1. Name of manufacturer and Test Name of the SIR method to be used. _____

-
2. Is the SIR method capable of detecting less than or equal to 0.2 gallons per hour release rates or releases of 150 gallons within a month with a 0.95 probability of detection and a 0.05 probability of a false positive result?
- _____ Yes _____ No *
3. Please provide results of an evaluation of the SIR method conducted by an independent 3rd party that indicates this leak detection method meets or exceeds the accuracy requirements stated in 40 CFR 280.43(h). The evaluation must have been conducted according to the procedures set forth in the Standard Test Procedures for Evaluating Leak Detection Methods (EPA/530/UST-90/007).

* - If No is checked, this method of SIR is not suitable to comply with the requirements of 40 CFR 280.43(h)

ATTACHMENT RD-H, INTERSTITIAL MONITORING OF DOUBLE WALLED TANKS AND PIPING (40 CFR 280.43(g)(1))

____ Check here if this Attachment is for Underground Storage Tank(s) only.

____ Check here if this Attachment is for Piping only.

____ Check here if this Attachment is for Underground Storage Tank and Appurtenant Piping.

Has the secondary barrier around the piping and/or tank been designed, constructed and installed to detect a leak from any portion of the UST system that routinely contains product?

____ Yes ____ No *

Specify below how a release through the tank's and/or piping's inner wall will be detected. If an automated system will be used, identify the manufacturer, the model and the probe to be used.

Attach written manufacturer's performance claims and the method of its determination or the results of an independent 3rd party evaluation indicating that the product meets the accuracy requirements stated in 40 CFR 280.43(g)(1).

Check below the type of detection device to be used in the interstitial space.

____ Vapor Sensors

____ Liquid Level Indicators

____ Liquid Sensors

____ Pressure/Vacuum Loss Sensors

If liquid sensor(s) is used

Is each monitoring device able to detect at least 1/8 inch of free product? ____ Yes ____ No*

* - If No is checked, the monitoring device is not suitable.

ATTACHMENT RD-I, INTERSTITIAL MONITORING METHODS, SECONDARY BARRIER WITHIN AN EXCAVATION ZONE, page 1 of 2 (40 CFR 280.43(g)(2))

____ Check here if this Attachment is for Underground Storage Tank(s) only.

____ Check here if this Attachment is for Piping only.

____ Check here if this Attachment is for Underground Storage Tank and Appurtenant Piping.

Check below the type of detection device to be used in the excavation zone.

_____ Vapor Sensors _____ Liquid Sensors

Submit a report that provides the Department with plans and specifications for a monitoring release detection system that meets the following requirements:

- a. The sampling or testing method used can detect a release between the UST system and the secondary barrier;
- b. The secondary barrier around or beneath the UST system consists of artificially constructed material that is sufficiently thick and impermeable (at least .00001 cm/sec for the regulated substance stored) to direct a release to the monitoring point and allow its detection;
- c. The barrier is compatible with the regulated substance stored so that a release from the UST system will not cause a deterioration of the barrier allowing a release to pass through undetected;
- d. For cathodically protected tanks, the secondary barrier must be installed so that it does not interfere with the proper operation of the cathodic protection system;
- e. The ground water, soil moisture, or rainfall will not render the testing or sampling method inoperative so that a release could go undetected for more than 30 days;
- f. The site is assessed to ensure that the secondary barrier is always above the ground water and not in a 25-year flood plain, unless the barrier and monitoring designs are for use under such conditions; and,
- g. Monitoring wells are clearly marked and secured to avoid unauthorized access and tampering.

If Vapor sensors are planned, the report required above should also address the requirements set forth in **ATTACHMENT RD-E, VAPOR MONITORING FOR UNDERGROUND STORAGE TANKS/PIPING.**

The report must include the name(s) and UST certification number(s) of the individual(s) and the firm responsible for designing the system.

ATTACHMENT RD-I, INTERSTITIAL MONITORING METHODS, SECONDARY BARRIER WITHIN AN EXCAVATION ZONE, page 2 of 2 (40 CFR 280.43(g)(2))

If liquid sensors are planned, submit a report that addresses the following issues:

- a. The continuous monitoring devices or manual methods used can detect the presence of at least one-eighth of an inch of product.
- b. The methods used for manual monitoring should follow the Department's Field Sampling Procedure Manual (May 1992) or the most recent version.
- c. If liquid phase out-of-tank product detectors are used for a monitoring device, provide results from an independent 3rd party that this leak detection method meets or exceeds the accuracy requirements stated in 40 CFR 280.43(f). The evaluation must have been conducted according to the procedures set forth in the Standard Test Procedures for Evaluating Leak Detection Methods (EPA/530/UST-90/009). Submit copies of the 3rd party certification.

ATTACHMENT RD-J, INTERSTITIAL MONITORING METHODS WITH AN INTERNALLY FITTED LINER

Submit a report supplying the following information.

1. The permeability of the liner for the substance stored must be no greater than .00001 centimeters per second.
2. The compatibility of the substance stored and the liner.
3. The method of interstitial leak detection to be used. An automated device which can detect a release between the inner wall of the tank and the liner must be used.
4. Description of the methods to be used to ensure the liner maintains the configuration of the tank(s).
5. Provide the name of the manufacturer of the tank and the internally fitted liner.

Note: the manufacturer of this method must have submitted results of an independent 3rd party certification to the USEPA verifying that their product meets appropriate performance standards described in the Standard Test Procedures for Evaluating Leak Detection Methods. (EPA/530/UST-90/XXX). Submit copies of the 3rd party certifications.

RD-K, OTHER MONITORING SYSTEM

Please describe the proposed monitoring system below, listing the name, address and phone number of the manufacturer.

(Attach additional pages if necessary)

What is the leak rate in gallons per hour or the total release in gallons within a month according to the manufacturer's claims?
(leave blank if not applicable to release detection system)

What is the minimum detectable limit (or sensitivity) of the monitoring system according to the manufacturer's claims? (leave blank if not applicable to release detection system)

_____ ppm of _____

With what degree of reliability does the manufacturer make the above claim?

_____ % probability of detection

_____ % probability of false positive result

Provide manufacturer's literature regarding this monitoring system. Also include any supporting studies validating its effectiveness and the method of its determination. Include the results of any independent 3rd party tests concerning the method's ability or inability to meet or exceed the accuracy requirements set forth in 40 CFR 280.

Submit any other pertinent information concerning the size of release that the method can detect and the frequency and reliability with which it can be detected.

ATTACHMENT Piping-Pressure (40 CFR 280.41(b)(1) & 280.44) (page 1 of 2)

Pressurized Piping.

Check the methods of leak detection listed below to be used to monitor the pressurized piping. Also check the correct responses and include the requested information.

The owner/operator must employ at least two types of monitoring for releases from pressurized piping. One method must be the installation and operation of an automatic line leak detector (indicated in section #1 below). The second method of monitoring must be either (1) one of the methods listed in section #2 below or (2) an annual line tightness test as indicated in section #3.

1. ____ **Automatic Line Leak Detector.** List below the model, manufacturer and accuracy of the line leak detector.

- a. Does this automatic line leak detector alert the operator within 1 hour to the presence of a leak of 3 gallons per hour or greater when operating at 10 pounds per square inch line pressure by restricting or shutting off the flow of regulated substances through the piping or by triggering an audible or visual alarm.

____ YES ____ NO*

* If you checked No, the method is inappropriate.

- b. Is this Automatic Line Leak Detector a **mechanical** device?

____ YES ____ NO

If you checked Yes attach any performance claims from the manufacturer or the installer and their manner of determination.

Go to Question c

- c. Is this Automatic Line Leak Detector an **electronic** device that has been permanently installed and used prior to December 22, 1990?

____ YES ____ NO

If you checked Yes please attach any performance claims from the manufacturer or the installer and their manner of determination.

Go to Question d on next page

ATTACHMENT Piping-Pressure (40 CFR 280.41(b)(1) & 280.44) (page 2 of 2)

- d. Is this Automatic Line Leak Detector an **electronic** device that has been permanently installed and used after December 22, 1990?

_____ YES _____ NO

If you checked **YES** above, submit results of an evaluation conducted by an independent 3rd party indicating that this electronic line leak detector meets or exceeds the accuracy requirements stated in 40 CFR 280.43(d) and that the method is capable of detecting the specified leak rate with a probability of detection of 0.95 and a probability of false alarm of 0.05. The evaluation must have been conducted according to the procedures set forth in the Standard Test Procedures for Evaluating Leak Detection Methods (EPA/530/UST-90/010).

2. **Applicable monitoring methods to be conducted monthly.** Check one or more of the following methods to be used to detect releases from the piping. The method(s) selected must be designed to detect a release from any portion of the underground piping. Attach the required Attachment.

- a. Statistical Inventory Reconciliation Method (SIR); complete and attach Attachment RD-G (page 39)
- b. Vapor Monitoring; complete and attach Attachment RD-E (page 35)
- c. Ground Water Monitoring; complete and attach Attachment RD-F (page 37)
- d. Interstitial Monitoring, double-walled piping; complete and attach Attachment RD-H (page 40)
- e. Interstitial Monitoring, secondary barrier within an excavation zone; complete and attach Attachment RD-I (page 41)
- f. Pressure Monitoring of Piping; if this electronic device has been permanently installed and operated prior to December 22, 1990, attach either the manufacturer's or the installer's performance claims and the method of determination. Otherwise submit the results of an independent 3rd party verifying that this product meets the performance standards described in the Standard Test Procedures for Evaluating Leak Detection Methods for Pipeline Leak Detection Systems, (EPA/530/UST-90/010).

3. **Line tightness testing conducted annually.** Such a test of the piping must detect a 0.1 gallon per hour leak rate at one and one-half times the operating pressure. (note: the manufacturer of the line tightness test must have an independent 3rd party certification verifying that their product meets performance standards described in the Standard Test Procedures for Evaluating Leak Detection Methods for pipeline leak detection systems, (EPA/530/UST-90/010)). Copies of the test results and the 3rd party evaluation should be kept at the facility for future reference.

ATTACHMENT Piping-American Suction (40 CFR 280.41(b)(2) & 280.44)

Check the method(s) of leak detection to be used to monitor the suction piping and attach the required information.

The owner/operator must employ at least one of the following two types of monitoring for releases from the suction piping. The two methods are (1) one of the monitoring methods listed below in section #1 below and (2) a line tightness test conducted every 3 years as indicated in section #2.

1. _____ **Applicable monitoring methods to be conducted monthly.** Check one or more of the following methods to be used to detect a release from the piping. The method selected must be designed to detect a release from any portion of the underground piping. Include the specified Attachment.

- a. _____ Statistical Inventory Reconciliation Method (SIR); complete and attach Attachment RD-G (page 39)
- b. _____ Vapor Monitoring; complete and attach Attachment RD-E (page 35)
- c. _____ Ground Water Monitoring; complete and attach Attachment RD-F (page 37)
- d. _____ Interstitial Monitoring; double-walled piping; complete and attach Attachment RD-H (page 40)
- e. _____ Interstitial Monitoring; secondary barrier within an excavation zone; complete and attach Attachment RD-I (page 41)
- f. _____ Other (please explain)

2. _____ **Line tightness testing conducted every 3 years.** Such a test of the piping must detect a 0.1 gallon per hour leak rate at one and one-half times the operating pressure of a pressure line. (note: the manufacturer of the line tightness test must have submitted certification to the USEPA that their product meets performance standards described in the Standard Test Procedures for Evaluating Leak Detection Methods for Pipeline Leak Detection Systems, (EPA/530/UST-90/010)). Copies of the test results and the 3rd party evaluation should be kept at the facility for future reference.